

Notice of Allowability

Application No.

10/809,751

Examiner

Xu Mei

Applicant(s)

FISCHER, EGHART

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 07/29/2004.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 25 March 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>7/29/2004</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Art Unit: 2644

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaneda et al, Iwahara et al, Sakamoto et al, Sasaki et al, Hoshuyama, Marash, Choi et al, Elko, Marash et al, Maisano, Kajala et al, and Zhang et al are made of record here as pertinent art to the claimed invention.

Each of the cited reference above discloses directional microphone or microphone array apparatus having specific beamforming characteristics and with the microphone apparatus also including directivity control for enhancing received acoustic signal.

2. The following is an Examiner's Statement of Reasons for Allowance:

The prior art fails to disclose or suggest an apparatus for suppressing an acoustic interference signal in an incoming audio signal, and method for performing such functions, comprising: a directional microphone system having at least two microphones for detecting said incoming audio signal, each of the at least two microphones generating a microphone signal therefrom; weighting units for respectively weighting the microphone signals with respective weightings for producing at least two directional microphone signals, the respective weightings defining a direction-dependent sensitivity of the directional microphone system; a normalization unit connected to the

Art Unit: 2644

weighting units for normalizing the respective directional microphone signals with respect to the same sensitivity of the directional microphone system in one direction region, for producing a plurality of normalized directional microphone signals each having an interference signal component; and a selection unit connected to said normalization unit for selecting one of the normalized directional microphone signals having a lowest interference signal component as an output directional microphone signal as recited and construed in independent claims 1 and 13. Applicant's invention of comprises a specific combination of elements and with their specific functional steps that is neither taught nor suggested by the cited prior art listed above.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 703-308-6610. The examiner can normally be reached on Monday-Friday (9:30-6:00), alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax

Art Unit: 2644

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Xu Mei

Primary Examiner

Art Unit 2644

3/17/2005